No. 658,204. Patented Sept. 18, 1900.

C. CHRISTENSEN.

VOTING MACHINE.

(Application filed Feb. 5, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

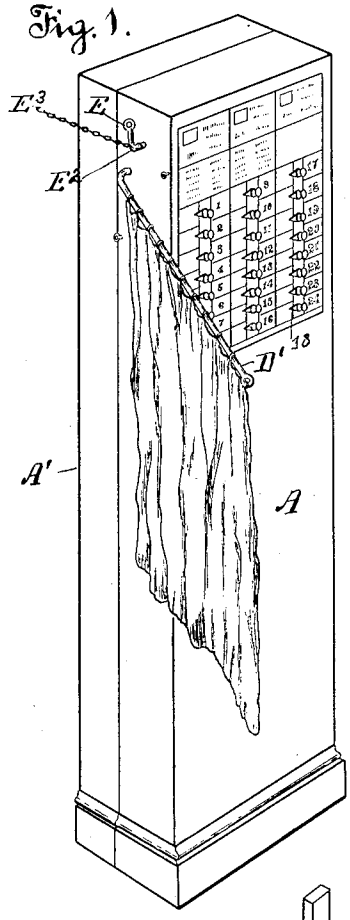
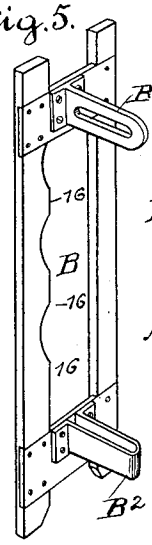


Fig. 5.



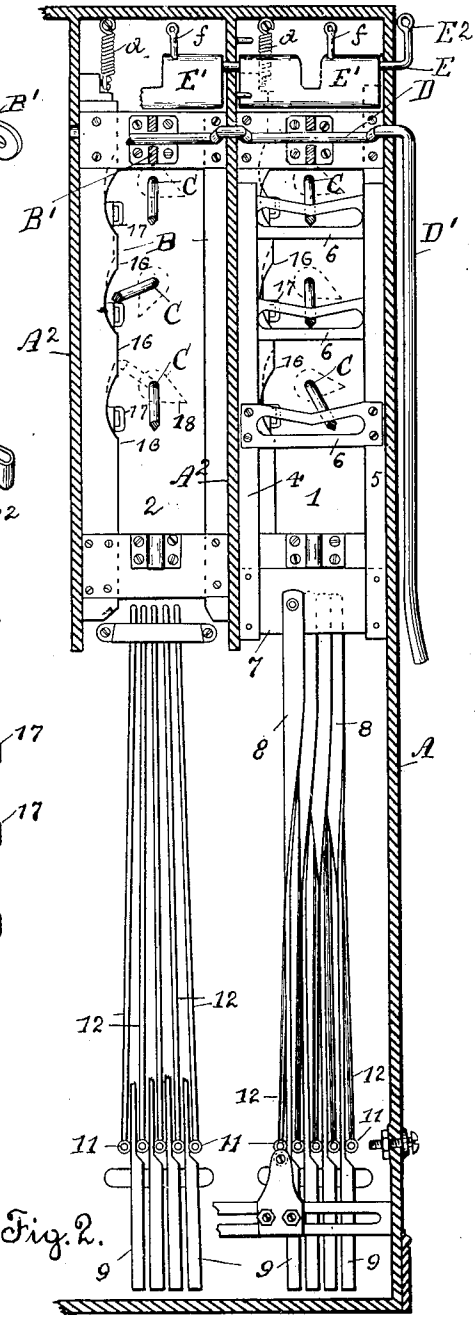


Fig. 6.

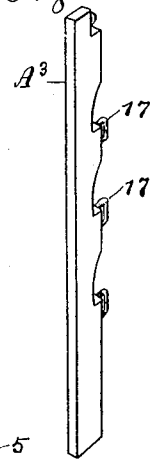


Fig. 7.

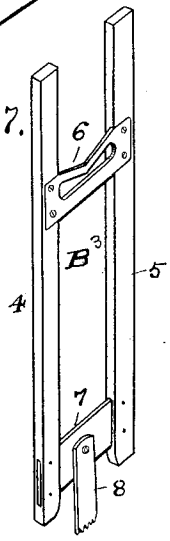


Fig. 8.

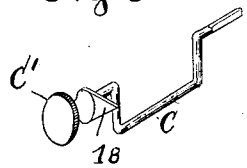


Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

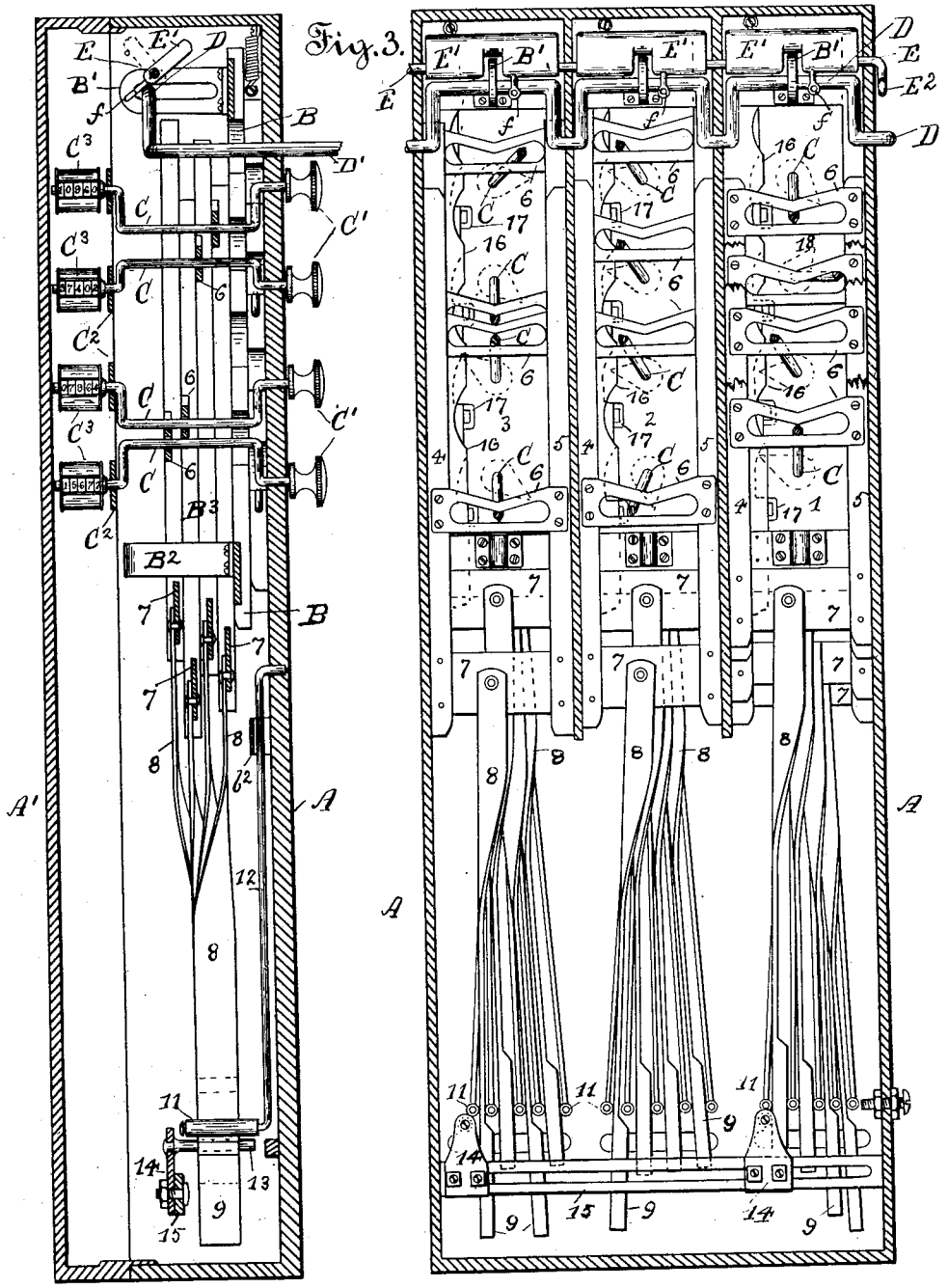

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHRIST CHRISTENSEN, OF OAKLAND, CALIFORNIA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 658,204, dated September 18, 1900.

Application filed February 5, 1900. Serial No. 4,017. (No model.)

To all whom it may concern:

Be it known that I, CHRIST CHRISTENSEN, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have invented a new and useful Voting-Machine, of which the following is a full, clear, and exact description.

This invention relates to certain new and useful improvements in that class of mechanical voting-machines wherein a series of movable lock devices are employed; and the same consists in the arrangement of parts and details of construction, as will be hereinafter fully set forth in the drawings and described and pointed out in the specification.

The invention consists in providing a machine employed to permit of votes being mechanically cast or tallied or registered, wherein the voting mechanism for each candidate to be elected to office is operated independently of the others, there being voting and registering mechanism for the votes for each candidate for office and for each question to be voted upon at an election, each voting-key for the various candidates or questions to be voted upon being so combined with the registering mechanism or tallying device that the totalized vote or ballot cast for any candidate or question voted upon may be ascertained within a few minutes after the closing of the polls.

The invention also consists in so arranging the voting and registering mechanism that the ballot of the voter is not registered until his departure from the voting booth, stall, or place of ballot; also, in so constructing the voting mechanism that the voter so long as he remains within the booth or place designated for casting the vote may independently operate the voting mechanism for the several candidates any number of times without causing the votes to be registered, thus giving the voter an opportunity to change or readjust his vote before finally casting the same, which is an important feature, as it permits of a change in the vote to be cast being made or a mistake to be corrected without causing confusion in the total votes recorded; in providing means whereby the final casting of the voter's ballot and recording thereof is made dependent upon some act of the voter after leaving the stall or booth or upon some act of a person selected for the purpose of operating the machine in order to register the final ballot of the voter, thus providing against tampering with the vote by the person next entering the voting booth or stall, and in providing means whereby the voting mechanism for all the candidates and questions to be balloted for are positively locked after the final cast of any voter's ballot, which mechanism must first be released before the next voter can operate the machine to cast a ballot.

The invention also consists in so arranging voting mechanism or devices that only such arranged for any given office or position or question to be voted upon may be operated at one time as there are vacancies to be filled—that is, if there be two or more candidates for mayor only the voting mechanism providing for the candidate the party desires to elect to office may be operated, as only one candidate can be elected to fill the said office, or if there be ten candidates for judge of superior court and only two to be elected then only the voting mechanism for two candidates may be operated at the same time, and so on for each office or question to be voted upon; if only one to be voted for, then the operating of the voting mechanism for any one candidate of that series locks the voting mechanisms for all the other candidates in that series against movement until such operated mechanism has been returned to its proper or normal position, when the voting mechanism for any other candidate of that series may be operated.

In order to comprehend the invention and the working of the various parts, reference must be had to the accompanying sheets of drawings, forming a part of this application, wherein—

Figure 1 is a perspective view of the machine. Fig. 2 is a broken longitudinal vertical sectional view of the machine viewed from rear. Fig. 3 is a similar view of the entire machine, illustrating certain of the slide-head stems elevated and the position of the pivoted lock device. Fig. 4 is a vertical sectional end view in elevation. Fig. 5 is a perspective view of the lock-frame for the slide-heads. Fig. 6 is a similar view of the slide-bar. Fig.

7 is a similar view of one of the slide-heads, and Fig. 8 is a similar view of one of the voting-keys.

In the drawings the letter A is used to indicate the casing or frame of the machine, which is provided with the hinged or removable back A'. The interior of this casing is preferably at its upper portion divided by partition-plates A^2 into a series of compartments 1 2 3, within which work the voting mechanism.

To simplify the drawings, I have only illustrated three compartments; but it will be readily understood that as many compartments may be provided as required, or only one compartment need be employed, provided the size be sufficient for the voting mechanism. Within these compartments the voting mechanism is arranged for the individual candidates, the working of which is the same as to each compartment.

In each compartment, at the side thereof, there is arranged a slide-bar A^3, which is held upward by means of spiral spring *d*, secured at one end to top of the casing and at its opposite end to the said slide-bar. Each bar is held in vertical alinement against partition-plates A^2 within its compartment by suitable guides secured to inner face of the compartments near the upper and lower end of said slide-bar. There is also located within each compartment, back of the slide-bar, the open lock-frame B, which frame at its upper end has secured thereto the projecting slotted plate B' and at its lower end the projecting arm B^2. This lock-frame, as will be explained hereinafter, serves to lock the voting mechanism against movement, to release the same to permit the casting of a vote, and to reset the same and complete the act of casting the vote. Said lock-frame is held in vertical position by means of the laterally-projecting guide-pins. In each compartment, back of the lock-frame, is located one or more slide-heads B^3, each consisting of the side bars 4 5, united by the V-shaped slotted cross-plate 6 and the cross-plate 7. There is a slide-head for each candidate in the series of candidates to be voted for, the slide-heads being interposed one upon the other, the position of the slotted cross-plate corresponding with the position of the candidate which it represents in the line of candidates for the office indicated. To the cross-plate 7 of each slide-head is pivoted a depending flat stem 8, each stem being given a twist, so as to place the enlarged ends 9 of the stems edgewise to the row of lock-rolls 11. Each lock-roll is secured to the lower flanged end of the arm 12, said arm being at its upper end pivoted to the inner face of the casing. These swinging arms are arranged throughout the length of the casing side by side, so as to place the lock-rolls in alinement, the line of arms being held in proper position by the plate b^2. The lower portion of each stem 8 rests between adjacent lock-rolls, the enlarged end 9 falling below the rolls. Each enlarged end in thickness approximately equals the diameter of one of the rolls. Consequently when one of the slide-heads is raised, so as to elevate and place the enlarged end of its stem between the lock-rolls, said rolls will be shifted or displaced a distance equal to the width of the head of the stem.

The rolls or movable lock devices are so arranged as to be in line, when all the slide-heads are lowered, above the enlarged inclined ends or heads of the vertical slide-stems 8. These rolls or movable lock devices are divided into distinct compartments or sections by means of the transverse stops 13, inwardly projecting from the bracket 14, secured to the longitudinal plate 15, arranged near the bottom of the casing, said stops limiting the movement of the rolls or lock device in either direction beyond a certain distance.

The movement or play of the rolls or movable lock devices in each compartment or section is limited by the transverse stops to a distance equal to the width of the head of the voting-stems for the candidates to be elected for a given office—that is to say, if the candidates for mayor amount to four the play or movement permitted the rolls or movable devices in the first compartment or section of the lock devices will only be that of the width of one of the heads of the voting-stems, as only one candidate can be elected to the office. As the movement or play permitted the rolls in said first compartment is limited by the transverse stops to a distance equal to the width of only one head, consequently when said space is occupied by the enlarged end or head of the stem of the raised slide-head a second slide-head cannot be elevated, as there will be no room between the rolls or lock devices for the enlarged head of the stem carried by said slide-head to enter. Hence the rolls act as a stop to prevent the said slide-head being raised until the elevated one has been lowered.

The bracket or plate 14, carrying transverse stop 13, being detachably secured to longitudinal plate 15 may be readily adjusted so as to increase or decrease the space between the rolls or lock devices as necessity may require.

Each slide-head is raised by the turning of the crank-shaped voting-key C, there being a key for each slide-head. One end of these keys extends through the front wall of the machine-casing and has a head C' thereon, while the opposite end extends through the bearing-plates C^2 and connects with a register or counter C^3, Fig. 4. There is a register or counter for each crank-shaped voting-key which serves to indicate the vote cast for the candidate represented by such key. This counter or register being well known as to construction and working, a description thereof is deemed unnecessary. Each key extends through and works within the slotted V-shaped cross-plate 6 of its respective slide-head. The face of head C' of the voting-keys may have

a number stamped thereon to correspond with the voting-number of the candidate for office it represents.

Each lock-frame is raised and lowered in order to release, reset, and lock the voting mechanism for all candidates by means of the crank-rod D. This rod extends throughout the length of the casing, Fig. 3, and the cranked portions thereof work within the slotted plates B', attached to the upper end of each lock-frame. One end of the crank-rod D extends beyond the casing and is turned downward at a right angle, so as to form a handle D', by means of which the said rod may be operated outside of the machine.

Within the upper portion of the casing A, above the crank-rod D, is arranged the rotatable rod E, to which rod a series of blocks E' is secured. These blocks are arranged immediately above and in line with the lock-frames, there being a block for each frame. Inasmuch as this rod with its blocks constitutes a lock for the frames, I shall term the same a "brake-rod," for, if so desired, this rod, like rod D, may be formed as a crank-rod, its cranked portions serving as the attached blocks. One end of said rod extends beyond the casing and is turned upward to form a small handle E^2, to which a chain or cord E^3 is connected.

In the present application no mechanism is illustrated by which the scattering or scratch vote is recorded, as separate and independent means are utilized for this purpose.

Inasmuch as the balloting for each office is conducted in the same manner, the operation of casting a vote for one candidate need only be described to give a correct understanding as to the working of the voting mechanism. To illustrate, we will follow the voting for the office of mayor. For this office provision has been made for five straight candidates. Consequently in the division for this line of candidates only such play or space should be permitted between the rolls or lock devices as will permit of the head of one stem of the slide-heads moving therein, which space will be fully occupied or filled when the enlarged end or head of one of the stems carried by the slide-heads has moved therein, thus locking the rolls or lock devices against another head moving therebetween. As the voter enters the voting-booth or place of ballot one of the inspectors of election or some one designated for the purpose draws upon the chain, cord, or rod E^3, so as to throw or turn handle E^2 downward, Fig. 3. This movement of the handle rotates rod E and turns the blocks or crank portions E' upward, so as to release the lock-frame B and give clear uplifting of said frame. At the same time the voter turns handle D' upward, the movement of which rotates the crank-rod D. As the crank portions of this rod work within slotted projecting plate B, it is obvious that as said crank portions are thrown upward by rotation of rod D the lock-frame will be carried therewith, Figs. 3 and 4. The blocks or crank portions E' of rod E are held in raised position by being thrown past the center, as illustrated by dotted lines in Fig. 4 of the drawings, and remain in this position until the crank-rod D is thrown upward full distance to raise or lift lock-frame B. As the said crank-rod D is thrown upward the crank portions thereof engage the pin *f*, depending from each block or crank portion E' of rod E, and throw or turn the said rod back beyond its center, full lines, Fig. 4. After the lock-frame has been elevated or raised, as described, the voting mechanism is free to be operated. The voter is then free to turn the button or head C', indicating the candidate he desires to elect for office. As this button or head is turned it rotates the crank-shaped voting-key C, connected therewith, which, working with slotted V-shaped plate 6 as turned, raises its slide-head B^3. The upward movement of this slide-head carries the stem 8, connected thereto, and raises the inclined enlarged head or end 9, so as to place the same between the rolls or movable lock devices 11. After the voter has cast his ballot for the number of candidates entitled to hold office the space existing or left in the series of rolls apportioned for said office will be filled or consumed by the enlarged end or head of the elevated stems 8, and he is prevented from voting for another candidate for said office unless the voting members of the previously-voted candidates be restored to normal position, for the rolls or lock devices prevent another enlarged head or end 9 entering therebetween while the previous ones remain elevated. It will be understood that the voter may turn the button or head C' backward and restore the voting mechanism to its normal position in order to change his vote or correct a mistake before his vote or ballot is finally cast and recorded, for the vote or ballot is not recorded until the voting-key C has made one complete revolution, which cannot be made until the voter leaves the booth or place of ballot. The voter is prevented from turning the voting-key C completely around by reason of the fact that the same comes in contact with one of the shoulders or projections 16, projecting from one side of the lock-frame B, Fig. 3, which shoulders or projections when the lock-frame is elevated are in the path of the crank-stem C. In the same manner the shoulders or projections 17, projecting from slide-rod A^3, prevent or answer as a stop against the crank-stems C being turned in but one direction by the voter. As each voting-key at its outer end carries a pointer or index-finger 18, the voter may readily determine which candidates he has voted for, as the position of the indicator or finger will clearly indicate the key that has been turned. If the indicator or finger is pointed upward, the voter will know that he

has voted for the candidate whose name or voting-number is indicated thereby. As the voter leaves the booth the final vote or ballot is cast by throwing the handle D′ downward. The movement reverses the position of the crank-rod D and forces the lock-frame downward. The movement of the lock-frame through the medium of the projecting plate, rod, or shoulder B^2, bearing upon the cross-plate 7 of the raised slide-head, forces the raised or elevated slide head or heads B^3 downward and moves the enlarged head or end 9 of its stem 8 from between the rolls or movable lock devices. With the downward movement of the slide head or heads the voting-keys are carried around in order to complete their revolution in order to register the vote by the pressure of the slotted plates 6 thereon. As carried around the crank portion of the voting-keys bears upon the shoulders or projections 17 of the slide-bar A^3 and forces the same downward until the keys move off of the said shoulders or projections, when the slide-rod moves upward by the pressure of the spring *a*. With the downward movement of the lock-frame rod E is rotated by gravity due to the weight of the blocks or crank portions E′, so that by the time the lock-frame has moved its full downward distance the block E′ will bear upon the top of projecting plate D′ and prevent the said frame being raised until the rod E is thrown to release the blocks or crank portions from engagement with the plates or projections D′. When thus lowered, the projecting arm B^2 of the lock-frame will bear upon the upper edge of plate 7 of the slide-heads and hold the slide-heads locked against vertical movement until the lock-frame has been elevated or raised. As the voting-keys C complete their revolution by the downward movement of the described parts the dials of the register C^3 are turned to indicate the number of said vote. After the polls are closed the total vote cast for the various candidates may be readily ascertained by reference to the indicators and the result of the election made known within a short while thereafter.

By pivoting the rods carrying the lock-rolls and stems carrying heads to engage therewith I am enabled to dispense with runways usually employed for the lock-rolls. As the parts give or swing upon substantially the same center, there is no danger of jamming or binding, as each describes the same arc of a circle.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

1. In a voting-machine, the combination with the voting mechanism, of a series of voting-stems, there being a stem for each candidate to be voted for, a series of movable lock devices between which the stems work, each lock device being pivoted to swing laterally, and a series of slide-heads, a voting-stem pivoted to each slide-head, said stem being designed to displace the movable lock devices upon the slide-heads being raised.

2. In a voting-machine, the combination with a series of vertically-movable slide-heads, there being a slide-head for each candidate to be voted for, a stem pivoted to each slide-head, a series of pivoted lock devices between which the stems work, and of means for locking the slide-heads against movement.

3. In a voting-machine, the combination with a series of vertically-movable slide-heads, a lock device for the slide-heads, means for releasing said lock devices, a stem pivoted to each slide-head, a series of pivoted lock devices between which the stems work, and of a voting-stem for each slide-head.

4. The combination with a series of voting-keys, a slide-head operated by each key, a lock device for the slide-heads, a stem pivoted to each slide-head, a series of pivoted lock devices between which the stems work, and of mechanism for raising the lock device for the slide-heads in order that the heads may be free to move upward to cast a vote and lowering the same to force the slide-heads downward to complete the act of voting and hold the same locked against movement.

5. The combination with the turnable voting-keys, of a vertically-movable slide-head connected to each key, a stem pivoted to each slide-head so as to have lateral movement independent of the movement of the slide-head, and of a series of pivoted lock devices between which the stems of the slide-heads work.

6. In a voting-machine, the combination with a series of turnable voting-keys, of a slide-head connected to each voting-key, a stem pivoted to each slide-head, a device for holding the slide-heads against movement, a series of pivoted lock devices between which the stems work, stops for limiting the lateral movement of the lock devices, and of mechanism for releasing the lock device for the slide-heads and resetting the same.

7. In a voting-machine, the combination with a series of vertically-movable slide-heads, of a stem pivoted to each slide-head, a series of pivoted lock devices or rolls between which the stems work, a voting-key connected to each slide-head and by means of which the slide-heads are raised, a lock device for the slide-heads, and of means for releasing the lock device so as to permit of the slide-heads being raised and for resetting the same to lock the heads after the casting of the vote.

8. In a voting-machine, the combination with a series of independently movable and turnable voting-keys, of a vertically-movable slide-head for each voting-key, a stem pivoted to the lower end of each slide-head, a series of pivoted lock devices between which the stems work and which are displaced with the raising and lowering of the stems carried by the slide-heads, and of a registering or index device actuated by each voting-key.

9. In a voting-machine, the combination with a series of independently-movable voting-keys, of a registering or index device actuated by each voting-key, a vertically-movable slide-head carried by each voting-key, a stem pivoted to each slide-head, a series of pivoted lock devices between which the stems work and which are displaced as the stems are raised and lowered, and of means for holding the voting-keys locked against movement in but one direction when the slide-heads are lowered and against being completely turned when the heads are raised.

In witness whereof I have hereunto set my hand.

CHRIST CHRISTENSEN.

Witnesses:
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WALTER F. VANE.